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<p>(21) International Application Number: PCT/IT92/00117 (22) International Filing Date: 21 September 1992 (21.09.92) (30) Priority data: PR91U000016 23 September 1991 (23.09.91) IT (71)(72) Applicant and Inventor: MENOZZI, Luigi (IT/IT); Piazza Gramsci, 35, I-43038 Sala Baganza (IT). (74) Agent: DALLAGLIO, Fabrizio; Bugnion S.p.A., Via Garibaldi, 22, I-43100 Parma (IT). (81) Designated States: US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE).</p>		<p>Published <i>With international search report.</i></p>
<p>(54) Title: A HYGIENIC PROTECTION DEVICE FOR TELEPHONE HANDSETS</p> <p>(57) Abstract</p> <p>The invention relates to a hygienic protection device for telephone handsets. The device comprises at least one membrane (4) which is applicable by external pressure to a receiver (2) and to a microphone (3) of the handset (1), and is shaped substantially according to the shape of the receiver (2) and microphone (3) of the handset (1). The said membrane (4) constitutes hygienic protection for the handset (1) itself.</p>		

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A Hygienic Protection Device for Telephone
Handsets.

Description.

The invention relates to a hygienic protection device for telephone handsets.

The word "handset" describes the part of a telephone set which contains and connects the receiver capsule and the transmitter capsule.

At present telephone sets are very common, both in private homes and in offices, in public buildings and in public telephone exchanges.

Telephones are also common in telephone boxes, which are places containing telephone sets for the use of the public, and are situated along the streets of cities and towns.

One of the main drawbacks of public telephone sets or rather those telephone sets situated in public places or in telephone boxes, is that of poor hygienic conditions.

Indeed, the great number of people that use public telephones means that, in particular on the handset, bacteria can proliferate.

Vandalism is also a great problem with regard to

public telephones situated in telephone boxes.
which, although not always destroying the
telephone set itself, lead to great diminution in
the hygienic conditions of the set, since residues
05 of saliva or other organic secretions remain on
the handset.

At present the only way to use such telephones
without incurring health risks is to disinfect the
telephone by means of disinfecting substances of
10 known type, applied for example with cotton wool.
The awkwardness of having to resort to this action
is, however, obvious.

An aim of the present invention is to eliminate
the above-mentioned drawbacks and in particular to
15 allow the hygienic use of public telephone sets
without having to resort to carrying disinfecting
substances or cleaning equipment.

A further aim is that of providing a hygienic
protection device for the said telephone set, and
20 in particular for the telephone handset, which is
especially economical, easy to use and apply, and
possibly realisable in throw-away packages.

The said aims are fully satisfied by the device
object of the present invention, which is
25 constituted by a telephone handset hygienic

protection device, of the type comprising a microtelephone or handset which is part of a telephone set and is equipped with a receiver which contains a receiving capsule and a microphone which contains a transmitting capsule, characterised by the fact that it comprises at least one membrane, pressure-applicable externally on the receiver and/or on the microphone, shaped according to the shape of the receiver and/or microphone, and aimed at providing hygienic protection for the telephone.

These and other characteristics will better emerge from the detailed description that follows, made with reference to the accompanying drawings, which represent a preferred embodiment herein illustrated in the form of a non-limiting example, and in which:

- figure 1 shows the device applied on a telephone handset, in a lateral view;
- figure 2 shows the device applied on a telephone handset, in frontal view;
- figure 3 shows a particular of the application of the device, in section according to line I-I of figure 2.

With reference to the drawings, 1 denotes a

microtelephone or handset being part of a telephone set (not illustrated) and comprising a receiver 2 containing a receiving capsule and a microphone 3 containing a transmitting capsule.

05 The handset 1 is of substantially known type but is provided with membranes 4 applied externally to the receiver 2 and the microphone 3.

Each membrane 4 is made preferably of material which is rigid, but sufficiently deformable to
10 permit a stable but removable application on the telephone handset.

The membrane 4 could be made, for example, out of polyethylene, plastic, paper or cardboard.

To enhance the stability of the application,
15 according to a possible embodiment, illustrated in figure 3, a gasket 6 is envisaged, internally inserted in the membrane 4 in such a way as to create sufficient friction between the membrane 4 and the handset, so as to favour reciprocal
20 coupling.

Instead of the gasket 6, to enhance stability of the application of the membrane 4 to the telephone handset, the membrane 4 may be internally equipped with one or more suckers, not illustrated.

25 The membrane 4 can be equipped with a plurality of

holes 7 to allow sound to pass from the outside, in the case of the microphone, or from the inside, in the case of the receiver.

The holes 7 can be further protected, for hygienic purposes, by means of a sheet or second membrane 8 permeable to sound but not to bacterial substances.

5 denotes the holes with which the receiver and microphone are equipped, while 9 denotes two protuberances for the hooking of the handset to a telephone set.

According to a further embodiment, not illustrated, the membranes 4 could be mutually connected by an elastic band.

The membranes 4 are preferably made in polyethylene and can be of the throw-away type, singly packaged in sterile wrappings and distributed by special automatic vending machines placed inside telephone boxes, or placed on sale in shops.

Each membrane 4 is substantially tray-shaped and comprises a flat part 4a and a border 4b.

The flat part 4a, when the membrane 4 is applied to the handset, is slightly detached and parallel to the corresponding external surface of the

handset covered by it, so that no contagion can be transferred to it.

The border 4b wraps around the receiver 2 and/or the microphone 3 of the handset to permit the stable application of the membrane 4 to the handset.

The device of the invention allows a high level of hygienic protection as well as good economy and ease of use of the device itself.

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Claims:

1. A hygienic protection device for telephone handsets, of the type constituted by a handset (1) which is part of a telephone set and which is equipped with a receiver (2) which contains a receiving capsule and a microphone (3) which contains a transmitting capsule, characterised by the fact that it comprises at least one membrane (4), pressure-applicable externally on the receiver (2) and/or on the microphone (3), shaped according to the shape of the said receiver (2) and/or microphone (3), and aimed at providing hygienic protection for the telephone handset (1).
2. A protection device as in claim 1, characterised by the fact that the membrane (4) is made of plastic material which is rigid but sufficiently deformable to permit a stable but removable application, by means of simple pressure, on the telephone handset (1).

3. A device as in claim 1, characterised by the fact that the membrane (4) is substantially tray-shaped and comprises:
- a flat part (4a) which, when the membrane (4) is applied to the handset, is slightly detached and parallel to the corresponding external surface of the handset covered by it;
 - a border (4b) which wraps around the receiver (2) and/or the microphone (3) of the handset (1).
4. A device as in claim 1, characterised by the fact that the membrane (4) is equipped with a plurality of holes (7).
5. A device as in claim 1 characterised by the fact that the membrane (4) comprises an internal gasket (6) for application to the handset.
6. A device as in claim 1, characterised by the fact that the membranes (4) are mutually connected by an elastic band.
7. A device as in claim 4, characterised by the fact that the holes (7) of the membrane (4) are protected by a sheet or second membrane (8)

permeable to sound waves.

8. A device as in claim 1, characterised by the fact that the membrane (4) internally comprises one or more suckers for a stable application to the handset.

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fig.1

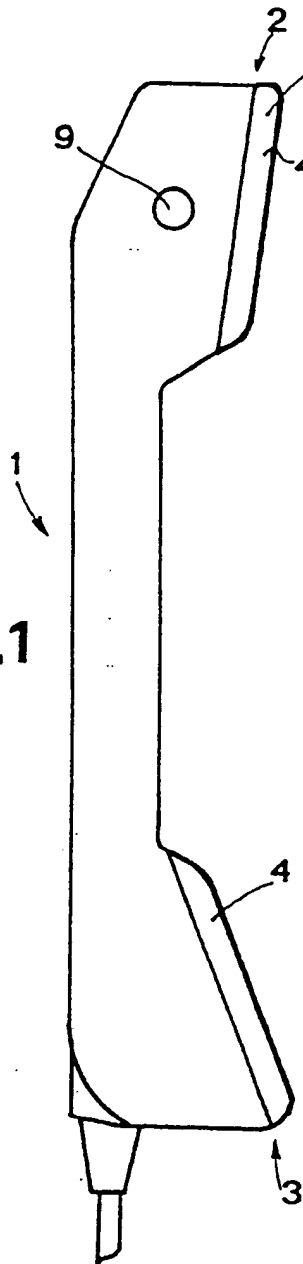


fig.2

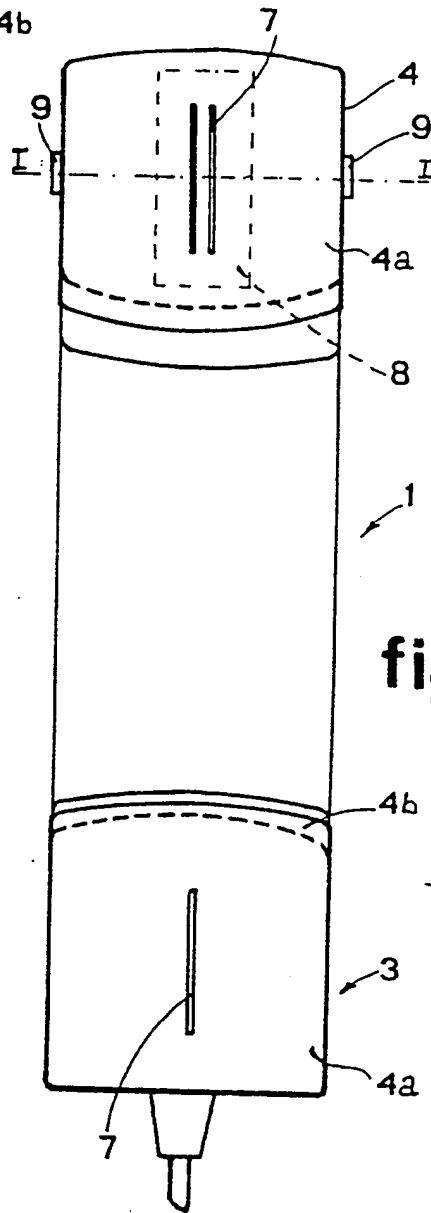
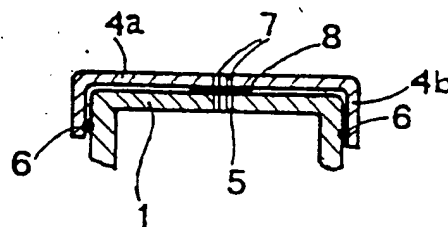


fig.3



INTERNATIONAL SEARCH REPORT

PCT/IT 92/00117

International Application No

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. 5 H04R1/12; H04M1/17		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	H04R ; H04M	
Documentation Searched other than Minimum Documentation to the extent that such Documents are included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹		
Category *	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X	FR,A,2 598 874 (GRIVON) 20 November 1987 see claims; figures	1-6
X	FR,A,2 448 817 (KAUFFMANN ET AL.) 5 September 1980 see the whole document	1-5,7
X	CH,A,291 942 (MARET) 1 October 1953 see the whole document	1,8
X	FR,A,2 614 160 (LETRAY) 21 October 1988 see claims; figures	1,2,3,5
-/--		
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IV. CERTIFICATION		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
26 NOVEMBER 1992		04.12.92
International Searching Authority EUROPEAN PATENT OFFICE		Signature of Authorized Officer GASTALDI G.L.

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category*	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claims No.
X	FR,A,2 634 337 (YUGEN KAISHA KATO KENKYUSHO) 19 January 1990 see claims; figures	1,3,4

ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO. IT 9200117
SA 65383

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the European Patent Office EDP file on
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR-A-2598874	20-11-87	None	
FR-A-2448817	05-09-80	None	
CH-A-291942		None	
FR-A-2614160	21-10-88	None	
FR-A-2634337	19-01-90	None	